



Estyn

Rhagoriaeth i bawb – Excellence for all

Arolygiaeth Ei Mawrhydi dros Addysg
a Hyfforddiant yng Nghymru

Her Majesty's Inspectorate
for Education and Training in Wales

The 'Developing thinking skills and assessment for learning' programme

June 2011



INVESTORS
IN PEOPLE | Gold

The purpose of Estyn is to inspect quality and standards in education and training in Wales. Estyn is responsible for inspecting:

- nursery schools and settings that are maintained by, or receive funding from, local authorities (LAs);
- primary schools;
- secondary schools;
- special schools;
- pupil referral units;
- independent schools;
- further education;
- adult community learning;
- youth support services;
- local authority education services for children and young people;
- teacher education and training;
- work-based learning;
- careers companies; and
- offender learning.

Estyn also:

- provides advice on quality and standards in education and training in Wales to the National Assembly for Wales and others; and
- makes public good practice based on inspection evidence.

Every possible care has been taken to ensure that the information in this document is accurate at the time of going to press. Any enquiries or comments regarding this document/publication should be addressed to:

Publication Section

Estyn

Anchor Court

Keen Road

Cardiff

CF24 5JW or by email to publications@estyn.gov.uk

This and other Estyn publications are available on our website: www.estyn.gov.uk

© Crown Copyright 2011: This report may be re-used free of charge in any format or medium provided that it is re-used accurately and not used in a misleading context. The material must be acknowledged as Crown copyright and the title of the document/publication specified.

Contents	Page
Summary	1
Main findings	2
Recommendations	4
Context	5
Impact on pupils' standards and wellbeing	7
Pupils' standards	7
Wellbeing	8
Impact on classroom practice	10
Leadership and management in schools	13
Strategic management	15
Appendix	
Evidence base	
Glossary	
The remit author and survey team	

Summary

- 1 The teaching and learning techniques that make up the 'Developing thinking skills and assessment for learning' programme are recognised as good practice. In a few of the schools visited, where teachers apply programme strategies consistently, pupils' behaviour and attitude improve and their thinking and learning become more structured. These changes in teaching and learning do not necessarily lead to sustained or easily measurable progress in standards or skills. The evidence that the programme has improved standards in end of key stage assessments or standardised tests is limited.
- 2 The programme's techniques are essentially content-free, which leaves the challenge of embedding its approaches in the wider curriculum to teachers. The need to apply the programme's techniques within an overall curriculum plan that is designed to develop pupils' skills progressively has not generally been well understood. Consequently it has not had a clear impact on the teaching or learning of literacy.
- 3 In many of the primary schools visited, there have been improvements in pupils' behaviour and attitude to learning. The interaction between pupils and adults has improved, and pupils have become more willing to listen to the views of others. In particular, the confidence and engagement of lower-ability pupils have improved. Pupils generally are more enthusiastic about their work and have a greater sense of pride in it.
- 4 The programme has changed the classroom practice of many of the teachers involved. These teachers have become more confident and creative in using a wider range of teaching styles. This has been achieved more consistently in the primary schools than in the secondary schools visited.

Main findings

- 5 The teaching and learning techniques that make up the 'Developing thinking skills and assessment for learning' programme ('the programme') are recognised by many teachers as good practice. In a few of the schools visited, mainly in the primary schools, teachers apply the strategies associated with the programme consistently and some pupils' behaviour and attitudes improve and their thinking and learning become more structured. These changes in teaching and learning do not, on their own, necessarily lead to sustained or easily measurable progress in standards or skills. There is little evidence that the programme has improved standards in end-of-key-stage assessments or standardised tests.
- 6 The programme is multi-faceted, but essentially free of specific content, which leaves the challenge of embedding its approaches in the wider curriculum to teachers. As part of the programme, exemplar materials show how the techniques can be applied across the curriculum. However, the need to apply the programme's techniques within an overall curriculum plan that is designed to develop pupils' skills progressively has not generally been well understood. Consequently, the programme has not had an impact on improving the teaching or learning of literacy.
- 7 In many of the primary schools visited, there have been improvements in pupils' attitudes to learning, although few schools have used a standard tools or packages to measure pupil engagement. The interaction between pupils and adults has improved, and pupils have become more willing to listen to the views of others. The confidence and engagement of lower-ability pupils have improved in particular. Pupils are more enthusiastic about their work and have a greater sense of pride in it.
- 8 In around a half of the schools visited, pupils' behaviour has improved, but the programme has had no impact on pupils' attendance rates.
- 9 The programme has changed the classroom practice of many of the teachers involved. These teachers have become more confident in using a wider range of teaching styles. Many of the teaching techniques trialled, such as providing pupils with increased thinking time, or providing feedback to pupils using 'two stars and a wish' (positive feedback and a suggested way forward), are now used regularly.
- 10 Programme lessons help pupils to develop their thinking skills and encourage them to use thinking techniques across the curriculum in new situations. This has been achieved more consistently in the primary schools visited, partly because a primary teacher delivers most subjects to their class while, if one secondary teacher delivers the programme, other teachers of the same pupils may not necessarily use the same approaches.
- 11 In the best lessons, teachers involved in the programme facilitate, rather than direct, learning. They speak less and allow increased dialogue with pupils in group and whole-class situations. There is a greater focus on open questioning and on encouraging in-depth answers. This stimulates pupils' thinking, leads them to be more engaged, and can help to develop the higher-order thinking skills involved in critical thinking, analysis and problem-solving. In these lessons, teachers encourage pupils to become more independent and to plan and reflect on their work.

- 12 Despite the programme's emphasis on assessment, the quality of teachers' feedback in marking is not consistent enough, particularly in the secondary schools visited. In many of these secondary school departments, pupils' work is marked thoroughly and precise targets for improvement are identified. However, in other departments, teachers do not always mark work regularly and do not inform pupils of what they have done well or how they can improve their work. A whole school marking policy has therefore not been implemented.
- 13 The programme has had the greatest effect in schools where the senior management teams support its key principles. These leaders promote a culture of enquiry and action-based research among teachers. The schools that succeed best in delivering the programme have done so in the context of a professional learning community of colleagues who reflect on and discuss ways of improving what they are doing.
- 14 The teachers involved in the programme have become more reflective about their classroom practice. Many schools provide time for teachers to discuss their practice with other colleagues within their school and wider cluster of schools. These schools have also provided time for teachers to observe other staff.
- 15 Although the programme has had a positive impact in many of the schools involved, there is still too much variation in the quality of teaching within and across schools. Not all lessons observed demonstrate assessment for learning or thinking skills in a meaningful way. Practice in most secondary schools visited is less developed than in primary schools.
- 16 Many schools have trained teachers who were not initially involved in the principles of the programme. However, only a few schools have trained classroom assistants in the programme and, in many cases, classroom assistants do not have a good understanding of the programme's principles and techniques. Only just over a half of schools involved have made parents aware of the programme or how they might support their children.
- 17 During the pilot stage and since, Welsh Assembly Government officers have supported individual schools and local authorities through conferences, school visits, resources and guidance documents. The guidance aligns with the Assembly's focus on skills, but the initial programme did not link clearly to the National Curriculum Skills Framework.
- 18 Not enough has been done by schools, local authorities or the Welsh Assembly Government to evaluate the impact of the programme on pupils' standards, wellbeing or attitudes towards learning. The programme lacks clear expectations about its planned impact and does not provide enough guidance on evaluation.

Recommendations

Schools and local authorities should:

- R1 embed the programme and similar initiatives within a whole-school curriculum plan for developing pupils' skills progressively, particularly in literacy and numeracy;
- R2 make sure all teachers and classroom assistants are trained for, adopt and apply the programme consistently across the curriculum; and
- R3 share within and across schools the learning gained by teachers involved in the programme.

The Welsh Government should:

- R4 provide guidance on how the programme can be linked to the National Curriculum Skills Framework and the Foundation Phase curriculum; and
- R5 establish clear success criteria for new programmes and initiatives so that their impact on standards and value for money can be evaluated.

Context

- 19 This report is published in response to a request by the Welsh Assembly Government to evaluate the impact of its 'Developing thinking and assessment for learning' programme ('the programme') on classroom practice and on pupils' performance and engagement.
- 20 The programme identifies the following features of teaching and learning for schools to adopt:
- 'focus more on how to learn, that is the process of learning, rather than on what to learn or the subject knowledge and skills;
 - pupils are frequently required to verbalise and to articulate their thinking/learning so that the processes are made more explicit and visible in the classroom;
 - pupils and teachers have a common language of learning;
 - focus on group collaboration and co-operation, with teachers facilitating learning;
 - pupils support each other's efforts to learn and jointly construct their learning;
 - pupils take responsibility for their own learning and make informed decisions;
 - pupils reflect, monitor and self-evaluate their own progress;
 - pupils are encouraged to transfer their learning across contexts and to make connections;
 - the environment is sensitive and constructive so that pupils feel safe to make mistakes; and
 - the classroom is a reflective environment where a community of learning can be established.'¹
- 21 A review of the National Curriculum and its associated assessment arrangements was undertaken between 2002 and 2004, in consultation with a wide range of partners. The key messages from the review were that the focus of any new curriculum should be on developing skills, including thinking skills, and that assessment should be formative throughout each key stage.
- 22 To support these changes, it was decided to fund a development programme for thinking skills and assessment for learning involving local authority advisers and their partner schools. The programme was to focus on the development, implementation and dissemination of good practice in the teaching of thinking skills and assessment for learning strategies.
- 23 In 2005, the Welsh Assembly Government set up and funded an initial pilot programme. The main aims of the pilot programme were for teachers to:
- improve pupils' performance (with a specific focus on literacy skills);
 - increase pupils' engagement with the learning process;
 - improve classroom practice of assessment for learning strategies; and
 - increase the frequency of lessons in creative activities.

¹ Why develop thinking and assessment for learning in the classroom? (Welsh Assembly Government, 2007)

- 24 The programme also focused on how schools develop, implement and share good practice. It was designed to encourage teachers to question and change their own teaching styles.
- 25 Between 2005 and 2008, 30 primary, eight secondary and four special schools from nine local authorities took part in the pilot programme. The programme involved one or two teachers and a senior manager from each school. The Welsh Assembly Government worked with teachers and local authority advisers for five terms, to identify suitable strategies to include in the programme.
- 26 In 2008, the Welsh Assembly Government commissioned an independent evaluation by an external agency, BMG Research, who recommended extending the programme nationally. Their report was published in July 2008².
- 27 In January 2009, the Welsh Assembly Government extended the pilot programme. Almost all local authorities chose to take part and received funding, over the three-year period, to support the programme. Each local authority nominated 50 lead teachers and agreed to work in partnership with the Welsh Assembly Government to coach and mentor these teachers in the first year. Total involvement in the programme was as follows:

Phase	Local authorities	Schools	Teachers
Pilot programme	9	42	110
Year 1	19	357	870

- 28 During the implementation of the programme, schools and local authorities were also involved in a range of other initiatives and strategies to develop thinking skills and assessment for learning. These initiatives included Activating Children's Thinking Skills, Cognitive Acceleration through Mathematics Education (CAME), Cognitive Acceleration through Science Education (CASE) (see glossary for details) or working with a higher education institution on assessment for learning.

² Evaluation of the Developing Thinking and Assessment for Learning Development Programme: BMG research, 2008 (<http://wales.gov.uk/docs/dcells/publications/090218evaluationreporten.pdf>)

Impact on pupils' standards and wellbeing

Pupils' standards

- 29 The teaching and learning techniques that make up the 'Developing thinking skills and assessment for learning' programme are recognised by many teachers as good practice. In a few of the schools visited, mainly primary schools, teachers apply the strategies associated with the programme consistently and some pupils' behaviour and attitudes improve and their thinking and learning become more structured. These changes in teaching and learning do not, on their own, necessarily lead to sustained or easily measurable progress in standards or skills. There is little evidence that the programme has improved standards in end-of-key-stage assessments or standardised tests.
- 30 A minority of schools claim a positive impact on pupils' performance. For example:
- in one primary school, the end of key stage pupil assessments show that 43% of pupils have moved up more than 2 levels and 16% have improved on CATs (see glossary) predictions;
 - in another primary school, the number of pupils achieving expected levels in oracy at the end of key stage 1 doubled after having lessons based on assessment for learning principles;
 - one secondary school can show performance above predictions based on prior performance and 2010 examination data shows an improvement in the percentage of pupils gaining 5 A*-C grades in English and mathematics;
 - another secondary school can show a particular impact in key stage 3, GCSE and A-level results in the departments that were involved in the programme; and
 - one special school, which uses INSTEP for data collection and analysis, can show that since the introduction of the programme there are positive differences in pupils' speaking and listening standards.

However, the co-existence of other initiatives, including those designed to improve thinking skills at these schools, makes it difficult to attribute these improvements in pupils' performance specifically to the effect of the programme.

- 31 In the majority of schools visited, the programme has contributed to improving pupils' problem-solving and investigative skills. As a result, schools claim that pupils can identify what they want to know and discuss and express an opinion on what they have learnt. One school held discussions with pupils before and after initiatives to develop thinking skills and assessment for learning. These discussions showed an improvement in the ability of the pupils to discuss their own learning and thinking and make links across many areas of their learning.

- 32 Pupils of all abilities in the majority of schools visited have worked on developing their communication, decision-making and team-building skills. These are the skills that prepare pupils well for the world of work. Pupils say they have a better ability to work independently in school and at home. Pupils can explain how what they learn by working as part of a team are skills that can be transferred and used in other situations.
- 33 The case study below illustrates the impact of good practice:

Case study 1: Good practice in a secondary school to use thinking skills and assessment for learning to improve pupils' standards

Context:

St Richard Gwyn Catholic High School in Flintshire is a mixed 11-19 comprehensive school within the diocese of Wrexham with about 900 pupils on roll. The school has been involved with the programme as one of the early pilot schools since 2005.

Action:

The senior management team actively supports the programme and it is a priority within the school development plan. The school has produced a comprehensive and user-friendly guide to support all staff in developing 'Skills and learning across the curriculum'.

There has been a rigorous system of targeting pupils who could get fewer than five A*-C grades at GCSE. The focus on thinking skills is central to this work and the school can demonstrate improvements through their lesson observations, teacher assessments and examination outcomes

The senior management team have ensured that staff have opportunities to share good practice and to learn from others. The school is actively involved in a professional learning community where assessment for learning is a key focus.

Outcomes:

The school's performance at the end of key stage 4 in 2010 showed improvements, including some in English and mathematics.

Assessment for learning is a priority in departmental improvement plans. Teachers use open questions effectively and this has improved pupils' higher-order thinking skills. Teachers now routinely reflect more on the teaching styles they use.

Wellbeing

- 34 The programme has had a positive impact on pupils' engagement in lessons in many of the schools visited, with the greatest impact being in primary schools. In particular, there are now greater interaction and communication between pupils and with their teachers. This is less evident in the secondary schools visited. Very few schools have used a recognised means to measure pupils' attitudes to learning, such as Pupil Attitudes to Self and School (PASS).
- 35 Many pupils engage positively in activities during lessons and say they have a greater sense of pride in their work. In the better lessons observed, pupils were clearly motivated and on task with pupils becoming more willing to listen to the views of others. Involving pupils in planning their work at the outset has led to greater ownership, engagement, interest and enjoyment for both pupils and teachers.
- 36 In many of the schools visited, pupils' self-confidence and self-esteem have improved, particularly where this was initially low. The culture of allowing pupils to make mistakes and learn through this process has contributed towards this improvement. As a result, pupils are more willing to take risks while analysing, researching and discussing their work. The confidence and engagement of the majority of lower-ability pupils in lessons have improved as they have more opportunities to learn from each other through group work. They now know that they are all expected to take part in the lesson rather than letting the same few pupils answer questions.
- 37 Pupils' understanding of the lesson objectives and their skills in reflecting on how well they have achieved those objectives are developing well in many schools. Pupils are also more aware of what they are expected to do to meet the learning objectives and improve their work by building purposefully on what they already know. As a result, they are more on task than previously and spend less time finding out what to do.
- 38 Evidence from recent inspections of the schools involved in the programme suggests that, in around a half of the schools, the programme has improved pupils' engagement in lessons. In a few of the schools visited, mostly secondary, the programme has had hardly any influence on pupils' concentration and motivation during lessons.
- 39 It is claimed that pupils' behaviour has improved in around a half of schools as they are now more engaged in lessons, but there is little evidence that attendance rates have improved because of the programme.

Impact on classroom practice

- 40 The programme is multi-faceted, but essentially free of specific content, which leaves the challenge of embedding its approaches in the wider curriculum to teachers. As part of the programme, exemplar materials showed how the techniques could be applied across the curriculum. However, the need to apply the programme's techniques within an overall curriculum plan that is designed to develop pupils' skills progressively has not generally been well understood. Consequently, the programme has not had an impact on improving the teaching or learning of literacy. Literacy was added as an aim to the programme at a later stage and many of the schools visited were unaware that it had been included.
- 41 The 'Developing thinking and assessment for learning' programme has affected the classroom practice of the teachers involved. Teachers are more confident in using a wider range of teaching styles. The programme has had the greatest impact in primary schools, although there are examples of good practice in the secondary schools visited.
- 42 Many of the techniques trialled are now used daily by teachers and learners. Mind mapping, sharing success criteria, talking partners, hot seating and using 'two stars and a wish' (positive feedback and a suggested way forward) are some of the most widely adopted strategies that have affected classroom practice. For example, many of the primary schools visited use 'two stars and a wish' in marking to provide feedback to pupils on their work. In the best examples, teachers discuss and follow up on the areas to improve with pupils.
- 43 In the better lessons visited, good planning and teaching to develop thinking skills encourage pupils to use thinking techniques across the curriculum. This is achieved more consistently in primary schools, because a primary teacher delivers most subjects to their class while, if one secondary teacher delivers the programme, other teachers of the same class may not necessarily use the same approaches, unless a whole-school policy has been implemented
- 44 In many of the primary schools visited, the teachers involved in the programme plan and deliver creative and engaging lessons more often. In the best examples, teachers facilitate, rather than direct, learning. They speak less and allow increased dialogue with pupils in group and whole class situations. Talking partners are used in many schools to encourage pupils to talk more and discuss ideas. However, the majority of programme lessons in the secondary schools visited were teacher-directed with little active pupil engagement and these teachers did not show a good understanding of the principles of the programme.
- 45 In the better classroom practice, teachers now focus more on learning objectives and success criteria. They share these with pupils and provide time for them to review their progress and discuss their ideas about how they could develop. As a result, pupils take greater responsibility for their learning and are more able to think about how they might improve. This has also allowed teachers to find out what pupils already know and use this to plan future lessons.

- 46 In the schools where the programme has had most impact, the improvements in the overall quality of teaching in recent years are linked to the enthusiasm with which all members of staff have embraced new approaches to teaching and learning. As a result, the emphasis on developing pupils' critical thinking skills is beginning to bear fruit in relation to pupils' attitudes to learning. Teachers ask questions that are challenging and demand accurate and clearly explained answers. They often encourage pupils to express their own views and to question those of others both verbally and in writing. Through promoting self-assessment and peer-marking, teachers have improved pupils' understanding of assessment and the next steps in their learning.
- 47 Many teachers involved in the programme use skilful questioning to extend pupils' thinking and encourage them to discover their own solutions to problems. They use more open-ended questions that encourage pupils to give in-depth answers. At best, this stimulates pupils' thinking, leads them to be more engaged and can help to develop the higher-order thinking skills involved in critical thinking, analysis and problem-solving. Pupils think more about their answers and are prepared to elaborate on their responses.
- 48 In many of the schools visited, teachers involved in the programme encourage pupils to plan, develop and reflect on their work through a variety of techniques suggested by the programme. These techniques enable pupils to think critically and creatively when they plan their work, carry out tasks, analyse and evaluate their findings, and reflect on their learning.
- 49 The case study below demonstrates the impact of introducing a whole-school strategy:

Case study 2: Good practice in a special school to adapt the programme's techniques to suit their pupils

Context

Ysgol Ty Coch is a residential school for children with severe learning difficulties and those with Autistic Spectrum Disorders. The school caters for children aged from 3 to 19. The school was one of the early pilot schools and has been involved with the programme since 2005.

Action

The school decided that the introduction of assessment for learning and thinking skills would be a whole-school strategy. It was felt that having a consistent approach would help pupils. All teachers and teaching assistants have been trained in these methods.

The school has adapted the techniques in the Welsh Assembly Government's guidance to suit the needs of pupils with severe learning and physical difficulties and pupils with autism. Staff have worked well together to rewrite schemes of work and resources which best meet the various and challenging learning needs of the children.

For example, staff have developed their own version of a 'traffic light' system to enable pupils to talk about their learning based on two colours. Pink (tickled pink = positive) shows that pupils have understood and are achieving and green (for development) shows that they are making progress, but are not there yet. These are used effectively to engage pupils in learning and pupils respond very positively.

Outcomes

Since the introduction of assessment for learning and thinking skills, the data from INSTEP shows positive differences in speaking and listening and increased confidence and self-esteem among pupils. Pupils engage willingly and there is a high level of concentration in lessons. They are very communicative and relate well to one another. Older pupils are engaged in planning activities such as their end-of-year prom.

Pupils are far more involved in monitoring their own progress. For example, individualised sheets are displayed on classroom walls to remind pupils about their half-termly targets. Pupils are actively encouraged to negotiate their own targets and to help in setting targets for teachers and these sheets are also displayed on the walls.

There is a shared understanding among staff about the ideas and tools introduced. Staff have a very strong focus on pupils' learning needs and use this to develop pupils' understanding and abilities.

- 50 Evidence from inspections between 2006 and 2010 of schools involved in the programme suggests that around half were making positive progress in 'developing thinking and assessment for learning'. In a minority of the programme schools inspected, mainly secondary schools, there were inconsistencies in classroom practice across the school, as some lessons were too teacher-dominated and opportunities for pupils to think critically about topics were limited.
- 51 In a few schools, the programme had hardly any influence at all or there were many inconsistencies in classroom practice. Where this is the case, pupils do not engage enough with the lessons or evaluate what they have learned. In a minority of the schools visited, mostly secondary, teachers are less effective in their use of questions to probe for reasoning. On these occasions, teachers accept short responses from pupils and miss opportunities to develop pupils' speaking and thinking skills.
- 52 Despite the programme's emphasis on assessment, the quality of teachers' marking is not consistent enough, particularly in the secondary schools involved. In many of these secondary school departments, pupils' work is marked thoroughly and precise targets for improvement are identified. However, in other departments, teachers do not mark work regularly and do not inform pupils of what they have done well and how they can improve their work. There is, therefore, insufficient feedback on progress towards targets. Marking is more consistent in the primary schools visited whereas a whole-school marking policy has not been implemented in the secondary schools visited.

Leadership and management in schools

- 53 The programme has had the greatest effect in schools where senior management teams have been supportive of the key principles of the programme. These leaders often promote a culture of enquiry and action-based research among teachers and encourage innovation. The schools that succeed best in delivering the programme have done so in the context of a professional learning community of colleagues who reflect on and discuss ways of improving what they are doing. In a few schools, the programme has been identified as a priority in the school development plan which has helped in making more of an impact on practice across the school.
- 54 The teachers involved in the programme have become more reflective about their classroom practice. Many schools provide time for teachers to discuss their practice with other colleagues in their school and among staff from a wider cluster of schools. These schools have also provided time for teachers to observe other staff. The secondary schools visited have also been less successful in engaging departments other than those initially involved in the programme. A very few schools use video-conferencing to share good practice. While a majority of schools have had opportunities to share practice within their local authority, only a minority have had the opportunity to do so across their consortia.
- 55 Although the programme has had a positive impact in many of the schools involved, there is still too much variation in practice within and across schools. Not all lessons observed demonstrate assessment for learning or thinking skills in a meaningful way and most classroom assistants do not have a good understanding of the strategies being used. Practice in the secondary schools visited is less developed than in primary schools. There has been little work to ensure continuity in the development of pupils' thinking skills and engagement in their learning when they move from primary into secondary schools.
- 56 Many schools have provided training on the principles of the programme to the teachers not initially involved in the programme and to newly appointed teachers. This is done through staff meetings, in-service training, classroom observations and by setting up professional learning communities. Many more teachers are now using the principles and tools in their day-to-day teaching than were initially involved in the pilot and the extension programmes. However, only a few schools have trained classroom assistants and only just over a half of schools have made parents aware of the programme and how they might support their child. As a result, there is a lack of consistency in the support pupils experience as those staff who are not familiar with the new strategies and tools carry on using other methods to teach and support pupils.
- 57 The following case study describes how St Athan Primary School has rolled out the programme.

Case study 3: Good practice in a primary school to roll out the programme to all staff, including teaching assistants

Context

St Athan Primary School is a primary school in the Vale of Glamorgan with 252 pupils on roll. The school was one of the early pilot schools of the programme in 2005.

Action

The initial focus of school training was on teachers who were already familiar with assessment for learning and thinking skills through the Cognitive Acceleration through Mathematics and Let's Think in Science initiatives. The programme was then gradually introduced across the school, building on the good practice, experiences and enthusiasm of those teachers.

The acting and deputy headteachers observe teachers' and teaching assistants' work in the classroom employing these strategies. The school makes the introduction of assessment for learning and thinking skills a whole-school priority and follows this through in its monitoring, reflection and adjustments to the programme.

The school has contributed, along with other schools, to a DVD which illustrates the process of using assessment for learning and thinking skills strategies and provides reflection from participating teachers and pupils.

Outcomes

The programme has been successfully rolled out to the whole school including to teaching assistants. Each class now incorporates these teaching and learning strategies in their work on a daily basis. Pupils are very aware of their learning and learning strategies and styles. They are able to express ideas about this clearly and succinctly, empathise with other pupils and provide support and reassurance to their peers.

There are effective systems in place to share good practice in school – through staff meetings, classroom observation and general discussion and sharing of materials. As part of the cluster arrangement, the school takes part in a cross-school observation programme. This includes written and oral feedback to those observed, so as to enable teachers to better understand primary/secondary teaching techniques and ethos. The regular classroom observations record progress and inform continuing professional development and whole-school training.

Strategic management

- 58 Before planning the programme, Welsh Assembly Government officers prepared thoroughly and researched the strategies underlying the programme. They reviewed recent research in the areas of 'developing thinking' and 'assessment for learning'. They also had discussions with policy makers and researchers from other areas of the United Kingdom about their future plans and progress with regard to similar strategies. Over the initial three-year period, officers worked with local authority advisers and teachers to select suitable strategies for use in individual schools and to monitor and evaluate progress. The local authority advisers trained and coached teachers in the development of strategies and their implementation. Funds were also made available for external experts to be brought in for school-based training.
- 59 During the pilot stage, officers supported individual schools well through a launch conference, school visits and the publication of two key booklets – 'How to develop thinking and assessment for learning in the classroom' and 'Why develop thinking and assessment for learning in the classroom?' The two booklets give good advice to schools on the underlying principles and provide schools with a range of tools and techniques.
- 60 However, the programme lacked clear expectations about how to measure the impact on teaching and pupils' standards and wellbeing. No success criteria were agreed at the outset of the pilot or the extension. Lessons were not learnt from the challenges of measuring the impact as identified in the evaluation of the pilot programme by BMG (an external research company) in 2008. The Welsh Assembly Government did not provide clear enough guidance on the need to evaluate the impact of the programme on pupils' standards. As a result, many of the local authorities and just over half of the schools lacked awareness of the need to measure the impact. As a result, schools are unable to demonstrate how their strategies to develop thinking and assessment for learning have improved pupil standards or wellbeing.
- 61 Nearly all local authorities monitor the development of classroom practice regularly through a mixture of classroom observations and discussions with senior management teams, staff and pupils. However, there is a lack of consistency in the way schools and local authorities monitor impact.
- 62 Schools and local authorities are also involved in many other initiatives designed to promote assessment for learning and thinking skills. It is therefore difficult to distinguish between the effect of the Welsh Assembly Government programme on performance, pupils' engagement in learning and classroom practice, and the impact of other initiatives.
- 63 The two local authorities visited have arranged good practice conferences and also support schools well with purposeful websites. The conferences were well attended and gave opportunities to showcase good practice to schools involved in the programme and to others in the area that were not part of the programme. The conferences and the websites increased the number of teachers participating in the programme.

This good practice is illustrated in the case study below:

Case study 4: Good practice in local authorities to provide training and share good practice

Context

Three local authorities in north-west Wales are working collaboratively to introduce the programme across a number of primary, secondary and special schools. As part of the first cohort, 150 teachers were trained and a further 150 are now actively involved in developing their understanding of the principles and tools. A full-time co-ordinator facilitates the training and day-to-day running of the programme across the authorities.

Action

At a successful launch conference, teachers received information on the background of the programme and took part in a series of workshops on questioning, success criteria, meta-cognition and the use of information and communication technology in developing thinking and assessment for learning. Teachers develop action plans for implementation back in their schools. A second set of launch meetings has now taken place using the experiences of the first cohort of teachers.

Each school involved in the programme has received two school visits from a Welsh Assembly Government officer and at least one visit from the programme co-ordinator. E-mail was also used to provide individual support. A bilingual website provides links to relevant documentation, training materials, useful resources and criteria that can be used for monitoring and evaluating the action plans through observation of lessons and scrutiny of pupils' work. This allows the lead teachers to share information and train others within their own schools.

Teachers visit other schools, within and outside the area, to observe and discuss good practice. Some attend national training courses presented by experts in the field of assessment for learning and developing thinking and share their learning with others on their return. Subject advisers across the local authorities regularly discuss the programme with the co-ordinator and they incorporate the principles and tools into their own training courses and other support for schools.

Outcomes

Teachers across the three local authorities understand and regularly use the principles and tools within the programme. Teachers plan more creative lessons in contexts which appeal to their pupils. They share practice well across the three local authorities and in a significant number of schools, the programme has been rolled out to the whole school. The availability of bilingual materials ensures that all schools across the three authorities have equal access to documents and resources and can use these to develop pupils' trans-lingual skills³.

³ Translingual skills are not merely translating skills, but involve mediating between different audiences, taking material which exists in one language and conveying its content and general impact in the other. This can be from Welsh into English or from English into Welsh and be through the medium of speech or writing.

Pupils are becoming more aware of their learning. In the best examples, they help to plan units of work and select tools to carry out activities. There is more collaborative work and pupils communicate their ideas, knowledge and understanding in a greater variety of ways.

Appendix

Evidence base

For this remit, HMI used the following as key sources of evidence:

- visits to two local authorities and a sample of 20 schools from north, mid and south Wales (14 primary, five secondary and one special – eight of which were Welsh medium), including observations of lessons and discussions with pupils;
- video conference with two local authority advisers;
- a questionnaire to a sample of 98 schools and all local authorities including:
 - an analysis of 21 detailed questionnaires from a selection of pilot and Year 1 schools (35% return rate);
 - an analysis of 13 detailed questionnaires from local authorities (59% return rate); and
 - an analysis of 64 questionnaires sent to all schools not involved in the detailed questionnaire (19% return rate);
- an analysis of inspection reports on 42 schools involved with the programme that were inspected by Estyn;
- Estyn inspection reports on schools involved in the pilot and extension;
- the Annual Report of Her Majesty's Chief Inspector of Education and Training in Wales;
- Welsh Assembly Government documents including:
 - Why develop thinking and assessment for learning in the classroom: Welsh Assembly Government, June 2010;
 - How to develop thinking and assessment for learning in the classroom: Welsh Assembly Government, 2010 (<http://www.ngfl-cymru.org.uk/dtaaf/eng/dtaaf.htm>); and
 - Aiming for Excellence training pack for Developing Thinking: Welsh Assembly Government/Estyn/BBC; and
- Evaluation of the Developing Thinking and Assessment for Learning Development Programme: BMG research 2008. (<http://wales.gov.uk/docs/dcells/publications/090218evaluationreporten.pdf>)

Glossary

Action-based research	This relates to the process whereby teachers systematically reflect on their work, make changes to their practice and share their experiences with others in order to improve pupils' learning.
Assessment for learning	This is the process of finding out where pupils are on a learning continuum, where they need to go and how best to get there. Assessment for learning is also known as formative assessment.
Assessment of learning	Assessment of learning, with formal recording, is used for strategic planning, leadership, and accountability purposes as well as for individual pupils and their parents/carers. It should provide evidence of individual, whole class, cohort and school performance. Such summary information includes data to show relative performance and change over time. Assessment of learning is also known as summative assessment.
CAME	Cognitive acceleration through mathematics education (CAME) is an intervention programme aimed at developing thinking skills in the context of mathematics.
CASE	Cognitive acceleration through science education (CASE) is an intervention programme aimed at developing thinking skills in the context of science.
CATs	Cognitive ability tests
Developing Thinking	These processes enable pupils to think creatively and critically to plan their work, carry out tasks, analyse and evaluate their findings, and to reflect on their learning making links within and outside school.
Hot seating	Hot seating involves a pupil sitting in a chair in front of the class, adopting a character or role and answering questions from the other pupils.
INSET	In-service training
INSTEP	A system of assessment that helps to track the progress of pupils working at below level 1 of the National Curriculum that is based on National Curriculum P scales. The P scales were developed to support target setting through the use of summative assessment to be used at the end of key stages and, for those pupils making more rapid progress, possibly once a year.
Learning objectives	The learning objectives of a lesson are shared with pupils in order to ensure that they understand the purpose of the lesson. Sharing learning objectives and developing success criteria with children leads to a stronger focus on the learning and enables children to become more self-evaluative.
Let's think	Let's Think is a programme designed to develop the thinking abilities of five and six-year-olds.

Mind mapping	A mind map can be a diagram that is used to represent ideas, words or thoughts. These are usually linked to a focus key word or idea. Mind maps are used to develop thinking skills and assist pupils in forming opinions and making decisions.
Moodle	Modular Object-Oriented Dynamic Learning Environment (Moodle) is a free and open-source e-learning software platform sometimes called a Learning Management System or a Virtual Learning Environment
Pedagogy	Pedagogy refers to the relationship between learning and teaching. It embraces the concept of the practitioner as a facilitator of learning, responding to the needs of individuals, willing to learn alongside the children, using appropriate methods to manage the process of learning and continually reflecting on and improving practice. (Page 42, Learning and Teaching Pedagogy, WG 2008)
Professional learning communities (PLCs)	PLCs promote and sustain the learning of all professionals in the school community with the collective purpose of enhancing pupil learning. This is done through the sharing of good practice within the school and collaboratively with other schools. PLCs have the potential for powerful staff development and powerful strategy for improving pupil outcomes through shared leadership or distributed leadership.
Pupil attitudes to self and school (PASS).	PASS is used to measure specific aspects of children's attitudes towards themselves as pupils and their attitudes towards school. It allows early identification of pupils and schools at-risk of exclusion or underperformance.
Sharing success criteria	This is central to assessment for learning and refers to the practice where teachers share with the pupils what the success criteria of a certain task is.
Talking partners	This is a strand within assessment for learning and refers to the practice of pairing pupils (usually randomly) for a set period. When questions are asked by the teacher time is given for the talking partners to discuss and feed back their answers.
Transition	This describes the transfer of pupils from one stage of learning to another, especially between key stage 2 and key stage 3, as this also includes moving from the primary school to a secondary school.
Two stars and a wish	This describes feedback given to pupils (usually by the teacher or sometimes by another pupil as part of peer assessment) that identifies two strengths in their work and one area for future development. This enables pupils to build on prior learning and breaks the process of improvement into smaller, less threatening steps.

The remit author and survey team

Maldwyn Pryse, HMI	Reporting Inspector
Penny Lewis, HMI	Team member
Ray Owen, HMI	Team member